WICnet Project

Post Implementation Review Report

January 2007

North Dakota Department of Health

PROJECT IDENTIFICATION

Project Name: WICnet (DOH)
Date: January 2007
Project Sponsor: USDA
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A. Project Purpose and Background

Background:

This project was a joint effort between the North Dakota Department of Health's WIC Program and the Iowa Department of Public Health's WIC Program. The WIC Programs from North Dakota and Iowa experienced many benefits including cost sharing (Iowa covered 80% of the cost, North Dakota 20%), workload duties being shared among the two states and the expertise of another state being involved.

The following is a description of our legacy data system:
North Dakota's automated data processing support of its WIC Program was minimal, consisting of a data entry module in the local service delivery sites that allowed clinic staff to record participant and FI issue information in a stand alone PC application. Summary data was consolidated at the state level by the use of diskettes containing clinic data which were mailed to the State WIC Office monthly and stored on the WIC Director's PC, enabling the WIC Director to create participation reports. There was no centralized, statewide participant database or "host" application. There was no vendor information captured by this system, nor was there any automated issuance of Food Instruments. The legacy North Dakota WIC data processing system incorporated very little of the functionality defined by the National FRD.

Other than participant data stored at the local level which may be used to populate the new system during implementation, North Dakota did not intend to use any of the existing system software or state level hardware components for the new system.

Purpose: *(as taken from testimony to the IT Committee on January 13, 2004)*

The purpose of the WIC Management Information System project is to create an efficient, automated data processing system for North Dakota's WIC program. The current WIC data system is more than 15 years old and in severe need of an update. North Dakota WIC has one of the oldest management information systems in the country and ranks among the bottom in system functionality.

The legacy data system consisted of clinic staff at each local WIC service-delivery site manually recording on paper participant and food voucher information and then entering the same information into their computers. Each month, the information was copied onto diskettes and mailed to the state WIC office. The local data was then consolidated at the state level and used to generate participation reports. This process was both inefficient and time consuming at both the state and local level.

B. Product Effectiveness

System Expectations and Outcomes

This section addresses what expectations we had for the new system, and what the outcome actually was for each item:

1. The new system is anticipated to improve clinic staff efficiency in both states. Staff in both states currently collect and record information on paper forms. This information is then entered into PC's by other staff. With the new system, all clinic staff will be expected to enter data directly into PC workstations.

   Outcome: The paper forms that staff currently use is very minimal. Paper charts no longer exist and their files are all electronic and part of the system. Direct entry into each PC is required to obtain a check, so staff are no longer doing "double entry" (making the participant fill something out on paper, and then entering into the computer later). This has increased time effiency in the clinics.

2. The change in food check issuance procedure will also be more dramatic in North Dakota, where all food instruments are currently issued manually. In Iowa, some food instruments (for new participants and those needing changes) are printed on site. The remainder are printed centrally and shipped to the local agencies twice a month for issuance. Both states will print food instruments "on demand" for all participants.

   Outcome: This has been a huge time saver in our clinics, as our staff no longer have to handwrite checks manually. Now, they are able to print them out and do not have to spend time writing out the food prescriptions. This took some time to learn for staff, but they would never go back to manual checks.

3. The net effect of the changes on data collection and food instrument issuance is not expected to increase or decrease staffing levels. However, the day to day functions and responsibilities of most positions will be different.

   Outcome: The changes mentioned above did not in fact change staffing levels and most positions stayed about the same.

4. At the state level in North Dakota, the WIC Program currently does not have a daily responsibility for the operation of the system. North Dakota WIC does not operate a formal help desk, per se, although the individual that developed much of the current clinic application is available to answer questions and do trouble shooting on the system. North Dakota has added an additional staff person who will manage this project. One of this individual's responsibilities once the system is operational will be to answer questions from local agencies and clinics.

Outcome: As project manager for this project, my duties now have shifted from managing the project, to overseeing the maintenance contract and running the Help Desk.

Major Objectives of the System Resulting From This Project and Outcomes (bulleted items in bold taken from our RFP)

The new WIC system to be developed and implemented through this project will automate a number of functions at both the local service delivery site and state agency level. The functionality will be the same regardless of which system architecture is chosen.

At the local service site (clinic) level, the system will provide:

- **Pre-application screening**,

Outcome: *Clinics can enter information into the system and "pre-screen" applicants to find out if they are eligible.*

- **Appointment scheduling (recording participant appointments made, kept, and missed, following up missed appointments, and managing clinic schedules),**

Outcome: *There is a whole Scheduler module that is used for making appointments, tracking their status, and managing their clinic schedules.*

- **Participant intake and application (recording participant characteristics and certification, referral, and voter registration data),**

Outcome: *All participant information above is entered into the Clinic Services portion of the system.*

- **Income eligibility determination,**

Outcome: *This information is collected on the Income tab and the Participant Eligibility tab in Clinic Services. Based on the income amounts entered, the system calculates whether or not the applicant is eligible.*

- **Documentation of identity, physical presence, and residence**.

Outcome: *This information is collected on the Participant eligibility and Income tabs.*

- **Nutrition risk, priority, and eligibility determination (automated eligibility determination with user override),**

Outcome: *This information is collected on the Risk tab.*

- **Certification, re-certification, termination, and reinstatement,**

Outcome: *These are all functions in Clinic Services.*

- **Food prescription assignment (calculating, recording, and controlling food prescriptions issued for participants),**

Outcome: *These functions are all contained on the Food Package tab.*

- **Food package tailoring,**

Outcome: *These functions are all contained on the Food Package tab.*

- **FI issued in the clinics,**

Outcome: *Food Instruments are printed directly at the clinic site by going to the Food Instrument tab.*

- **Identifying and referring participants for other local, state, or Federal health and social assistance for which they are eligible,**

Outcome: *This function is located on the Referrals pop-up in Clinic Services.*

- **In-state transfer of participant records from other local agencies and clinics,**

Outcome**:** *Participant records are able to be transferred statewide by using the Transfer family function in Clinic Services.*

- **Procedures for preventing and resolving potential dual participation,**

Outcome**:** *This function is handled by dual participation checks the system does when a new participant is added. There is also a report that the system has that will show any dual participation across the state.*

- **Pre-defined and ad hoc analysis and reporting,**

Outcome**:** *The system contains both reports, and OLAP cubes.*

- **Transferring participant and certification data to the state agency level system,**

Outcome: *The State office can view all participant data in the system.*

- **Transferring FI issue data to the state agency level system.**

Outcome: *This information is all available to the State office without having to transfer any data.*

At the state agency or host level, the system will provide:

- **Financial management (FI reconciliation, budgeting, funds allocation and use, Federally required reporting, food obligations and outlays, *etc.*),**

Outcome: *This is all functionality that is part of the 798 report.*

- **Vendor management (peer grouping, education, authorization, monitoring, compliance buys, penalties, replacement FIs, *etc.*),**

Outcome**:** *This functionality is all included in the Vendor Management module.*

- **High risk vendor analysis (e.g. low variance analysis and high mean analysis, both by peer group)**

Outcome**:** *This functionality is all included in the Vendor Management module.*

- **Caseload management (participation/applicant projections, waitlist management, caseload assignment, "what if" analysis, *etc.*),**

Outcome**:** *With the exception of waitlist management, this is all part of the 798 report. The wait list functionality was one of the items swapped out of the original scope in exchange for the items on pages 12 and 13 of this report and is slated as part of the Amendment 2 enhancements.*

- **Dual participation analysis,**

Outcome**:** *See above section on local service site (clinic) level functionality*

- **In-state transfers (transferring participant records from the losing to the gaining agency),**

Outcome**:** *See above section on local service site (clinic) level functionality*

- **Food package creation and distribution,**

Outcome**:** *See above section on local service site (clinic) level functionality*

- **Transfer of FI issue and redemption/rejection data to and from the financial intermediary,**

Outcome**:** *See above section on local service site (clinic) level functionality*

- **Maintaining and electronically transferring data required for the USDA Minimum Data Set and the CDC surveillance programs,**

Outcome**:** *The system currently produces extract files that are sent to CDC and Abt. Associates to meet this purpose***.**

- **Additional pre-defined reports (*e.g.*, participant, nutrition education, vendor, FI usage, percent of eligible applicants served),**

Outcome**:** *The system currently has over 50 reports that provide us with this information.*

- ***Ad hoc* query capability, and**

Outcome*:* *The system has an OLAP cube function, which is similar to ad hoc functionality.*

- **Accepting data from and making data available to the local service delivery subsystem.**

Outcome**:** *See above section on local service site (clinic) level functionality*

Survey

A survey was conducted with our user community to gage the satisfaction level with the new system and the overall satisfaction with the entire process.

We focused the survey on a couple of main areas: Overall satisfaction with the WICnet system, communication during the project, preparedness for rollout, Help Desk quality, and training effectiveness.

75 surveys were distributed, 65 surveys were returned, for a response rate of 87%. Following are the results:

A scale of 1-5 was used for the following questions, with 1= poor and 5= excellent. N/A was also an option on questions on the survey for new staff that were not present during certain parts or the entire project.

1. Overall satisfaction with the WICnet system –
    - 5 – 49.2%
    - 4 – 40 %
    - 3 – 10.7%

2. Communication during the project –
    - 5 – 50.8%
    - 4 – 29.2%
    - 3 – 7.7%
    - 2 – 3%
    - N/A – 9.2%

3. Preparedness for system rollout –
    - 5 – 20%
    - 4 – 49.2%
    - 3 – 18.5%
    - 2 – 4.6%
    - 1 – 1.5%
    - N/A – 6.2%

4. Help Desk quality –
    - 5 – 53.8%
    - 4 – 27.7%
    - 3 – 6.2%
    - 2 – 1.5%
    - N/A – 10.7%

The following questions were answered by “yes”, “no”, or “not sure”. N/A was also an option on questions on the survey for new staff that were not present during certain parts or the entire project.

1. Was the project progress/information shared often enough and adequately?
    - Yes – 83%
    - No – 1.5%
    - Not Sure – 9.2%
    - N/A – 6.2%

2. Was the method of training effective?
    - Yes – 84.6%
    - No – 4.6 %
    - Not Sure – 6.2%
    - N/A – 4.6%

C. Project Solution

The IA/ND Smart Client system is a multi-tiered architecture utilizing a web-based, web-distributed .NET Smart Client for the Presentation Layer, .NET Assemblies for the business components, Web Services for database access and communication, and Microsoft® SQL Server 2000 for data storage.

The Smart Client Application consists of .NET Windows Forms compiled into an executable assembly which is downloaded from the Internet. This technology allows any clinic to instantly download and launch a rich Windows-based graphical user interface through their web browser. The Smart Client Application will also dynamically download its business components from the web server as needed.

The business components are .NET Assemblies written in Visual Basic.NET®. They are developed using object-oriented concepts such as inheritance and polymorphism. The business objects contain all of the business logic for the application. To retrieve and update data, the objects communicate with the data web services using Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), and Hypertext Transfer Protocol (HTTP).

The database tier of the application is the Microsoft SQL Server 2000 database. The system leverages SQL Server's ability to run large databases under high loads.

D. Key Metrics: Cost, Schedule, Scope, and Quality

Cost: The original budget for the project was **$1,507,250** (North Dakota portion). We made the decision to switch the system architecture to .NET in

early 2004, and this had a financial impact of an additional **$93, 908**, for a revised budget of **$1,601,158**. We ended the project under budget coming in at **$1,111,923**.

Further explanation: Our original estimate for local agency hardware/licenses was $309,918 (actual- $137,754) and our original estimate for State agency hardware/licenses was $224,854 (actual- $16,402), and we did not have an estimate for hosting costs because this was undetermined at the time of our original budget planning. This came in at $12,937.

Budget adjustments: On the June 2006 quarterly report, a final budget number of $1,063,775 was reported, but due to a miscalculation on three of the Ciber deliverable invoices, an inclusion of 4th quarter Ciber deliverables, and the inclusions of 4th quarter and the first month of 1st quarter FY07 for ITD hosting and project staff time, the difference of $48,148 is accounted for. ($1,111,923 - $1,063,775 = $48,148)

We also in error, did not add the .NET addition of $93,908 to our projected revised budget, so that is why the originally reported number of $1,507,250 for our revised budget has been changed in this report to $1,601,158.

	Original Budget	Revised Budget	Actual	Difference from Original	Difference from Revised
Original Project					
Project Staff	$135,324	$135,324	$89,833	-$45,491	-$45,491
Local Agency comp, prnt and license	$309,918	$309,918	$137,754	-$172,164	-$172,164
St Agency Hardware & SQL License	$224,584	$224,584	$16,402	-$208,182	-$208,182
CIBER	$749,842	$843,750	$787,100	+$37,258	-$56,650
Maximus	$87,582	$87,582	$67,898	-$19,684	-$19,684
State ITD	N/A	N/A	$12,937	+$12,937	+$12,937
Sub Totals	***$1,507,250***	**$1,601,158**	**$1,111,923**	**-$395,327**	**-$489,235**
Enhancement Phase					
Amendment 1	N/A	$80,000	$80,000	N/A	$0
Amendment 2	N/A	$80,000	In progress	N/A	N/A
Sub Totals	**N/A**	**$160,000**	**$80,000**	**N/A**	**$0**
TOTALS	***$1,507,250***	***$1,761,158***	***$1,191,923***	***N/A***	***N/A***

Schedule: Our official project start date was June, 2003 when we signed the contract with Ciber, Inc. The original project end date was July, 2005. After the four month extension for the .NET architecture change, this was revised to

November 2005. A second change in the project end date was decided by us, when we chose to delay implementation of Clinic Services until January, 2006.

As explained below in the Scope section, the Vendor management portion of the application was delayed for rollout until June 2006. User Acceptance Testing (UAT) was held in May with our project sponsor in attendance and participating in testing. Due to some upcoming federal changes related to Vendor management that were going to be occurring, our project sponsor requested that we make some additional changes to Vendor management in lieu of rolling out with the current product as planned in June, which delayed our implementation of Vendor management to October 2006.

See the table below (page 12) for the breakdown of the task timeline related to deliverables. The tasks in the table below are:

- Task 1 – Project Initiation, Final System Specifications, and Detailed System Design
- Task 2 – System Development and User Acceptance Testing
- Task 3 – System Conversion, Implementation of Pilot and Revision
- Task 4 – System Installation and Rollout
- Task 5 – Initial One Year Warranty
- Task 6 – Extended Warranty Period

	Apr-04		Jun-04		Jul-04		Aug-04		Oct-04		Nov-04		Dec-04	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Task 1	6/2/2003	6/30/2004	NC	NC	NC	8/30/2004	NC	11/30/2004	NC	12/31/2004	NC	NC	NC	1/31/2005
Task 2	7/1/2004	3/30/2005	NC	5/30/2005	NC	NC	NC	NC	NC	NC	NC	6/30/2005	NC	NC
Task 3	4/1/2005	6/30/2005	6/1/2005	8/30/2005	NC	NC	NC	NC	NC	NC	7/1/2005	NC	NC	NC
Task 4	7/1/2005	12/22/2005	7/15/2005	10/31/2005	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 5	12/23/2005	12/22/2006	11/1/2005	10/31/2006	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 6	12/23/2006	12/22/2007	11/1/2006	10/31/2007	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	Jan-05		Feb-05		Mar-05		Apr-05		May-05		Jun-05		Jul-05	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Task 1	NC	2/28/2005	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 2	NC	8/30/2005	NC	NC	NC	NC	NC	NC	NC	NC	NC	TBD	NC	12/2/2005
Task 3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	TBD	NC	10/14/2005
Task 4	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	TBD	NC	12/31/2005
Task 5	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	TBD	1/1/2006	12/31/2006
Task 6	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	TBD	1/1/2007	12/31/2007

	Aug-05		Sep-05		Oct-05		Nov-05		Dec-05		Jan-06		Feb-06	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Task 1	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 2	NC	NC	NC	TBD	NC	1/27/2006	NC	NC	NC	TBD	NC	4/28/2006	NC	5/12/2006
Task 3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 4	NC	NC	NC	TBD	NC	2/17/2006	NC	NC	NC	NC	NC	5/31/2006	NC	NC
Task 5	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 6	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	Mar-06		Apr-06		May-06		Jun-06		Jul-06		Aug-06		Sep/Oct-06	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Task 1	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 4	NC	NC	NC	NC	NC	NC	NC	6/30/2006	NC	NC	NC	NC	NC	10/19/2006
Task 5	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Task 6	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Enhance	NA	NA	NA	NA	NA	NA	6/1/2006	9/15/2006	NC	NC	NC	NC	NC	Oct-06

Scope: The major scope change of this project, was that it was initially designated as a transfer project. Initially we had agreed to transferring in the Pennsylvania WIC system with minor modifications. During JAD sessions, it was determined that there were a multitude of differences from the way Iowa and North Dakota WIC "do business" compared to the way the Pennsylvania WIC program did, so it was identified at that time, that a transfer project was not really appropriate. Because Ciber was interested in developing a system that would better fit the needs of other states as well, they agreed to help redesign the system and make it fit our business needs. After reviewing our project deliverables in the contract, we decided that some of the deliverables we originally asked for did not make sense. So, we decided that we did not want Ciber to perform deliverables 12-19 in our contract. In exchange for these deliverables, it was agreed upon that the following items would be substituted in its place:

Birth Weight unit of measure
Infant Weight unit of measure
Prenatal Weight Gain Chart Titles
Breastfeeding Tab - Edit a Terminated record
Enable BF tab for Infant and Child
Investigator Family - Certification
Certification Blood requirements
Infant Pre-Cert Threshold
BF Cert Period to 1 Year
VOC / Pre-Cert for First Cert Only
Hide Categorical Eligibility End Date
Physical & Mailing visible
Remove Attention To
Medical Diagnosis Text Box
Rename Special Formula
Food Package to after Care Plan
Special Formula to Formula Documentation
Clear Model Food Package drop-down
Switch the order of Diet and Health tabs
Revise text boxes in Health & Diet questionnaires
Change Tri-State checkboxes
Income Grid
Use 4.33 as multiplier on Income
Income Grid Changes
VOC End Date
New Member Delete
Two Members, Same Name
Duplicate Family Member
Eliminate SSN for Iowa
Remove shortcut buttons
Change labels on Record dates
FI Quick Improvments
Change Favorites to Tools
Blank Forms Invisible

Participant Type Required
Displaying Planned Nutrition Education Topics
Medical Assistance ID Carryover
Remove Infant Weight field on Pregnancy tab
Eliminate Outcome on Pregnancy
Default to All in Family
Sort FIs by Month
Participation Period Change
Referral Heading Change
Risk 701
Automated Risk / Questionnaire Updates
Risk Categories
Alphabetic Risks and Nutrition Ed
Pre-fill Advanced Search
Add first name to SoundEx
Parent / Guardian Search
Change Staff Member to Text Box
Termination Date Calculation
Motor Voter to Voter Registration
Reverse questions on Voter Registration
Split Indicator for Food Product
Reverse Logon / Close buttons
Messages label on Main Menu
Logon Security
Initial Application Settings
Scheduler Income Tab to Pop-Up
Non-WIC Maximum Duration
Maximum students on Nutrition Ed
Mark Appts as Arrived / Seen
Expand Scheduler Appt. window
Set Status Refinements
Comments to Notes
Scheduler New Appointment
Scheduler Copy / Paste
Open Appointment right-click Label
Scheduler Optimization
Emergency IDs via System Parameter
Mask phone numbers
Mask dates
Phone Number to one field
Mask Zip Code
User Name on Title Bars

This change did not add any additional dollars to the contract or any additional time to the project schedule, but due to the obvious extra work these changes involved, it was agreed upon to push some items from the original scope to post-implementation (see below).

The second major scope change was the architecture change to .NET. This added both additional dollars to the project and an additional 4 months to the project schedule. As mentioned above, Ciber did add some functionality that was not in the original RFP, and allowed us to make changes/additions a little longer than we should have allowed. So, this did cause some original

functionality to get pushed out after implementation. The following items were moved into post-implementation:

- Reports/OLAP cubes
- Vendor Management
- Violations and Sanctions
- Waiting List

All of these items were easily moved to post-implementation. The Vendor management section of WICnet was completely separate and unrelated to the main part of our application, Clinic Services. Our legacy Vendor management system was basically done on paper, so for us to continue that was not a disadvantage. The delay for reports was actually an advantage to us to do after implementation because we then had a better understanding of what data we really needed from reports. The violations and sanctions were able to be maintained on paper. Waiting list functionality is something that USDA wanted to be incorporated into our system, although this has never been something that we have needed so far in 30 years.

Quality: During UAT, 241 issues were identified by the testers. Of those 241, 122 were determined to be defects, 57 of them actually worked as designed, 13 were related to bad data in the database, 15 were labeled as design changes, 11 were not reproducible, and 23 were script errors.

Currently after the installation of Amendment 1, we have 41 open defects that will be addressed with the installation of Amendment 2.

E. Lessons Learned and Best Practices

RFP Process:

- Include a minimum number of both technical and cost points to qualify for further consideration
- Assure that all requirements are included in the RFP by having all vested parties review the RFP before being released. ITD reviewed our RFP and approved it before it was released, however the inclusion of the system being ADA compliant was missed and then we had to go through a process of getting a waiver.
- To save money, we put together the RFP with assistance on some sections from BCA and documents gathered from other states. Looking back, we should have had our QA contractor on board and gotten help in developing the RFP. We asked our QA contractor to help us develop the scoring tool and help us through

the RFP process, but it would have made more sense for them to help in the development of the RFP.

- Knowing what we know now, we should have spent more time in getting a better understanding of some of the deliverables in the contract. Once Ciber was on board, it would have been good to go over each of the deliverables in the beginning of the project to make sure we had a joint understanding of what was expected. When we got to the DFDD (Detailed Functional Design Document) we each had different ideas of what the document should look like. This would have saved us some time in reviewing things and getting to what we needed more quickly.
- I would also encourage the use of a BAFO (Best and Final Offer) process. We reviewed and scored all of the proposals that were turned in. We invited the top cut of companies back to do oral presentations. We then had them submit their Best and Final Offer. This was financially a win for us.

<u>Project Kickoff</u>

- We should have required Ciber to learn a lot more about our current data systems and modes of operations. I really think that if CIBER would have been more knowledgeable in these areas, that it would have made many parts of analysis and design much easier.
- Since we had both a primary contractor and a QA Contractor, I think that some of the natural tension among them could have been eased a bit in the beginning of the project, by making sure that both parties understood what the other was responsible for doing. We found out later in the project than we should have, that there were some misunderstandings of roles and responsibilities between the two contractors.
- We formed the DUC (Data User Committee) Group in the early stages of the project, and this was probably one of the biggest strengths of the project. The DUC group was composed of several members of our local agencies across the state, representing both small agencies and larger agencies. The DUC group helped out by participating in JAD sessions, reviewing documents, participating in User Acceptance testing, and training. They were an essential "voice" for the larger group of users.
- Our other major strength of the project was due to a product called Sharepoint. This was a website hosted by our contractor that served as a document depository/information center. We were able to house everything here from project meeting agendas, deliverable documents, project schedule/calendar information, training information/materials, issue lists, action item lists, and about everything else imaginable. This was crucial in our ability to have access to whatever we needed with the three parties (Ciber- Pennsylvania, Iowa WIC, North Dakota WIC) being in all different locations.

Design & Development Phase

- I feel strongly that a Business Analyst from Ciber on site for a period of time in would have been very helpful. We chose to allow the Ciber team to work mainly from Pennsylvania, and while they did travel to ND significantly, I think that an on site BA for at least a couple of months would have been very beneficial.
- This phase of the project took much longer than we planned, but there were advantages and disadvantages. Since Ciber was trying to develop a top-notch WIC system that they knew other states would be interested in, they were willing to "give" us much more than we originally asked. While this was definitely a win-win for us, it did end up affecting our implementation dates slightly and also we ended up swapping some of the things they did "extra" for us, with some original scope work. So, some of our original scope items have taken much longer to get delivered to us then I think we had expected.
- We made a change to the system architecture during this phase and changed to Smart Client .NET, and it was definitely a plus for us. Although it added on some additional dollars and time, our project sponsor was in favor of making the change because it was more cost effective to do it during this time, rather than waiting until it was implemented and then making the change.
- Detailed Functional Design Document (DFDD)– This document needs to be reviewed extremely well because it becomes the basis for what your system contains and how it should work. The hardest part about the review of this document was not what was actually in it, but what was not in it. For example, some of the sections of our system were not detailed adequately in the DFDD and we assumed things would work a certain way, but when they did not, it all came back to seeing how it was described in the DFDD. If there wasn't adequate detail, it was hard for us to say that it should be a certain way.

UAT

- It is important to have a variety of different testers participate in User Acceptance Testing. People with different roles pick up on different things, and UAT was a good opportunity for us not only to uncover system defects, but also outline possible changes in work flow that needed to be addressed.
- We learned that you need to plan for at least two rounds of UAT. We also allowed some minor defects to go into production, so as not to affect our project schedule. While this was a good choice to keep us on schedule, getting all the bugs fixed took longer than we had expected.

Pilot

- This was yet another chance for us to get our hands on the system in a live environment. We chose a live pilot, which really helped uncover more work flow issues, some defects, and also gave our staff confidence that they really could use

our new system successfully. We only piloted for a week in one of our main clinics, and I feel that even piloting for two weeks would have been beneficial. We also did "mini-pilots" where we had a couple other clinics across the state use the system for a couple days with clients.

Training

- We did statewide training in six different locations across the state and divided our staff into groups of 12-18 people, which was a good size group to have at one time. We conducted scenario-based training, with a lot of hands-on exercises. This was extremely effective for our staff and gave them a lot of practice during the actual training. We had our state staff co-train with our contractor, which was really effective so that we had both program knowledge and policy/procedure knowledge at each training for the trainees. Our training lasted one week, which seemed to be about the right amount of time to cover all the content, without making it too overwhelming.
- Another thing that was really effective for us was after training was completed, we had a "play" environment where the system was available so that staff could get their hands on the system immediately after training to reinforce what they learned. Because we ended up with a few months between actual training and system rollout, this was vital to make sure that staff were able to practice what they had learned.
- Besides the statewide training that was done "in person", we have used a tool called Raindance, an interactive web tool, for different types of training for local agency staff. This has allowed staff to be trained across the state without losing time out of their day for travel.

Data Conversion

- Our old system had a lot of data that needed to be cleaned up, so we did a lot of data conversion runs with the old data. This was very important, and we found that we could have even done more data conversion runs, as some "bad" data, did make it into our new system.
- Data conversion needs to be given the proper amount of attention and it needs to be conducted by the people that know their data. Careful mapping of old data elements to new data elements is also very important.

Implementation

- We chose the "big bang" approach for implementation, and overall, this was very effective for us. The main reason we did not rollout in waves, was the complication of running our old data system and running a new data system during the same time periods.

- It is important to have a sufficient Help Desk during the early part of implementation. As project manager, I was the main Help Desk contact, and we also had one staff person from Ciber here for the first week after going live. This was necessary to handle the large volume of calls. We had a phone line set up for "urgent" calls and also an email account that answered questions and addressed problems.

Miscellaneous

- One challenge during the project was trying to keep all interested parties in communication with each other, when it was needed. For example, we had a lot of "players" involved throughout the project that we needed input from at different times. Obviously both state WIC programs (IA & ND), ND ITD, BND, our regional office (project sponsor), CDC, Abt. Associates, IA IM Dept., FSMC (Iowa's bank), our QA Contractor (Maximus), both states' local agency staff, and accounting staff. For future projects, I would concentrate on keeping all parties informed, and do my best at pulling in the appropriate parties at the appropriate times. I do not have a perfect solution for this, but I would definitely be more aware of the importance of this for any future projects.